

<p>96-321844/32 A97 D25 (A26) RHON 94.12.23 *WO 9620268-A1 RHONE POULENC CHIM 94.12.23 94FR-015552 (96.07.04) C11D 3/08, 3/16, 3/37 Alkaline agent for protecting glass or crockery during washing - comprises siliceous polymer obtd. by condensation polymerisation of ammonium of alkali silicate with silicate, silicate condensate, or alkoxy:silane (Frn) C96-102539 N(AM AU BB BG BR BY CA CN CZ EE FI GE HU JP KG KP KR KZ LK LR LT LV MD MG MN MX NO NZ PL RO RU SG SI SK TJ TT UA US UZ VN) R(AT BE CH DE DK ES FR GB GR IE IT KE LS LU MC MW NL OA PT SD SE SZ UG) Addnl. Data: CUIF J, JOUBERT D 95.12.01 95WO-FR01583</p>	<p>A(6-AE, 12-W12B) D(11-B11, 11-D1A)</p> <p>soln., and/or (c) an alkoxysilane of formula (II), in amts. such that the ratio by wt. of Si from (B): total Si in the polymer is 0.0002-0.05 (0.003-0.006). The siliceous polymer had a loss on calcination at 700°C of 15-30 (18-28) wt.%. $R_nSi(OM)_p(OH)_{4-n-p} \quad (I)$ $R_nSi(OR')_{4-n} \quad (II)$</p>
<p>An alkaline agent for protecting glass and crockery comprises a siliceous polymer based on an organo-mineral silicate obtd. by condensation polymerisation of (A) an NH_4 or alkali metal silicate with molar ratio SiO_2/M_2O of 0.5-4 (1.2-3.5), and (B) an organo-Si cpd. consisting of (a) an alkali silicate of formula (I), (b) a condensate of siliconates of formula (I), sol. in (A), in aq.</p>	<p>M = NH_4 or an alkali metal (pref.); R = 1-20C (1-18C) hydrocarbon gp., opt. halogenated and opt. contg. O or N as heteroatoms; n + p = not above 4; n = 1-3; p = at least 1; and R' = 1-60 alkyl, pref. Me or Et.</p> <p style="text-align: right;"> WO 9620268-A+</p>

<p><u>USE</u> Glassware is washed in a dishwasher, using a detergent compsn. contg. 5-40 (10-40) wt. % of the alkaline agent. Deterioration of glass and crockery during repeated washing is reduced.</p> <p><u>PREFERRED AGENT</u> (A) is Na silicate. (B) are (a) 10 siliconates, including methyl-, hexyl- dimethyl-, methylpropyl- and methyloctyl-siliconates of Na or K, and their condensates, (b) methyltri(m)ethoxy-, octyltri(m)ethoxy- and diethylene diamine triethoxysilane, and (c) dimethyldi(m)ethoxy-, and trimethyl(m)ethoxy-silane.</p> <p><u>PREFERRED COMPOSITION</u> A detergent compsn., protecting glass and crockery, contains th siliceous polymer, pref. in amt. of 5-40% (10-40%), and also a builder, a bleach, an anti-incrustation agent and a filler.</p> <p><u>EXAMPLE</u> Microscope slides were immersed for 3 weeks at 60°C in an aq. soln. contg. 5 g/l of aq. Na disilicate ($SiO_2:Na_2O = 2.1$), contg. 55</p>	<p>wt.% of water. On mixing 99 pts. wt. (dry wt.) of 44.7% of Na silicate ($SiO_2:Na_2O = 2$) and 1 pt. wt. of a 45.1 soln. of Rhodorsil 51T (RTM: K methylsilicate), the copolymerisation was spontaneous. The copolymer was sepd. giving a prod. with 24.5% loss at 700°C. Microscope slides were immersed in an aq. soln. contg. 5 g/l of the copolymer. Results were pH of soln., initial (A) 11.6, (B) 11.4; final, (A) 11.3, (B) 11.1; wt. change of glass, (A) -2.1mg, (B) 0 mg; appearance, (A) opaque film; (B) no visible corrosion. (HW) (24pp510DwgNo.0/0) SR:EP156380 EP431820 EP437988 US3337496 US4344860 WO95365338</p> <p style="text-align: right;"> WO 9620268-A</p>
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